User Manual

WIRELESS N300/N150 PCI-E ADAPTER



N300 Series:
ENEWI-2XN4x
(with 2 antennas)

N150 Series:
ENEWI-1XN4x
(with 1 antenna)

Note:
The lowercase "x" in model numbers represent the antenna type. At the time when this manual was written, Encore offers 3 different type of antennas for Wireless N PCI-E Adapter : 2dBi, 3dBi, and 5dBi. The antennas shown on the cover are 5dBi. 2dBi and 3dBi antennas are shorter.

TABLE OF CONTENTS

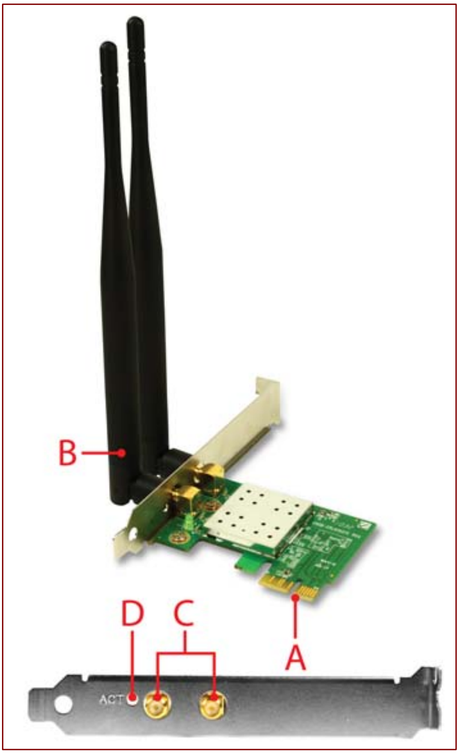
Product specifications, size, and shape are subject to change without notice, and actual product appearance may differ from that depicted herein.

Chapter 1: Overview

Thank you for choosing Encore Electronics' Wireless N300/N150 PCI-E Adapter. With just a few steps, you will be enjoying the convenience of wireless networking at the speed that is much faster than the prior Wireless G technology. Place the desktop computer at any place you want to avoid the hassle and unsightly view of wires. Moreover, ENEWI-2XN4x and ENEWI-1XN4x support Wi-Fi Protected Access (WPA/WPA2) data encryption to help protect your data and privacy.

With Encore Electronics' Wireless N300/N150 PCI-E Adapter, you can smoothly browse websites, play games, stream video, make phone calls and download files over the Internet. You also can easily share files with other users and access peripherals, such as network drives, printers and cameras, in your home or office networks.

1.1 Product Overview



A. x1 PCI-E Connector

B. Detachable, External Antennas*

C. Antenna Connectors

D. Activity LED (Green)

Note:

* N300 Series come with two antennas and N150 Series come with one antenna. The antennas shown in the picture on the right are 5dBi antennas. Adapters with other type of antennas are also available.

1.2 LED Indicator

The Activity LED will be blinking when:

- The adapter is scanning for available wireless networks.
- The adapter is transferring and/or receiving data.

1.3 Package Contents

N300 Series (ENEWI-2XN4x)

- Wireless N300 PCI-E Adapter x 1
- Detachable, External Antennas* x 2
- Quick Installation Guide x 1
- Installation CD (User Manual on CD) x 1

N150 Series (ENEWI-1XN4x)

- Wireless N150 PCI-E Adapter x 1
- Detachable, External Antennas* x 1
- Quick Installation Guide x 1
- Installation CD (User Manual on CD) x 1

Note:

* The antennas shown on the front cover are 5dBi antennas. Other type of antennas, such as 2dBi and 3dBi antennas, are also available.

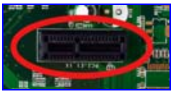
1.4 System Requirements

- Available PCI-E slot
- Operating System: Windows® 7, Windows Vista® or Windows® XP
- CD-ROM Drive

Chapter 2: Installation

2.1 Hardware Installation

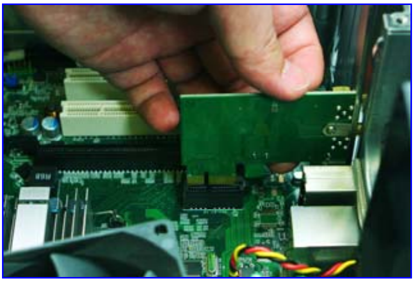
1. Shut down your computer and disconnect your computer's power cord.
2. Open the case of your computer.
3. Locate an empty PCI-E slot.



4. Remove the bracket that blocks the selected PCI-E slot, if there is one.



5. Insert the PCI-E card firmly into the empty PCI-E slot.



6. Make sure there is no loose connector or part inside the computer case.
7. Put the cover back to your computer case.
8. Attach the external antennas to the connectors on the back of the wireless adapter.



Note: The N150 Series only has one antenna.

9. Reconnect the power cord.
10. You can turn on your computer now.

2.2 Software Installation

2.2.1 Windows® 7 and Windows Vista®

The installation procedures are similar between Windows® 7 and Windows Vista®.

A.



1. Click "***Cancel***,"

if you see the '***Found New Hardware Wizard***' window.

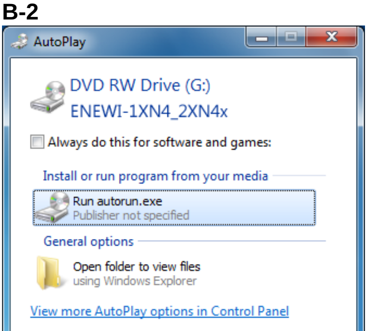
B. Insert the '***Installation CD***" that comes with the package to the CD-ROM drive. Depending on your computer's configuration, one of the following 3 scenarios will happen (B-1 to B-3).

B-1



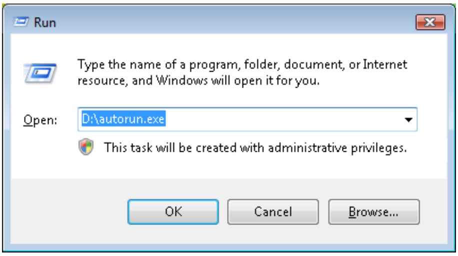
- The '***Encore Welcome Screen***' appears automatically, and then the '***Quick Setup'*** window in ***Step C*** will appear.

B-2



- Instead of the '***Encore Welcome Screen***,' the '***AutoPlay***' window appears.
- Select "***Run autorun.exe***."

B-3



- If neither the '***Encore Welcome Screen***' nor the '***AutoPlay***' window appears, type "**D:\autorun.exe**" in the "***Run***" command window in the ***Start*** menu (**'D'** is the drive letter of your CD-ROM drive).
- If the "***Run***" command window is not in the ***Start*** menu, go to the ***Start*** menu → type "***run***" in the "***search box***" → select "***Run***" in the list of results.

Note: You can use "***Browse***" to find the CD-ROM drive number.

C.



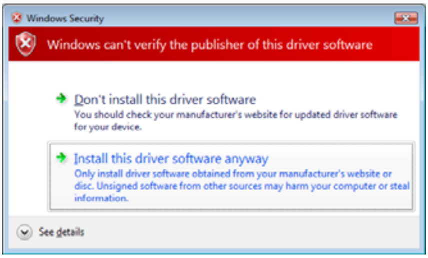
- Click "***Software & Driver Installation***" in the '***Quick Setup***' window.

D.



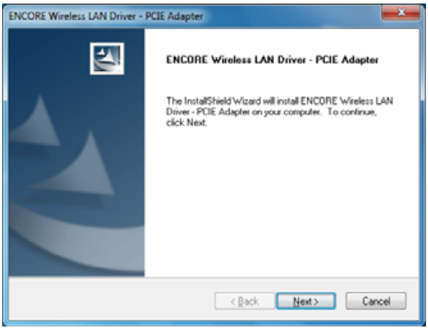
- Click "***Yes***" to continue,

if you see '***Do you want to allow the following program to make changes to this computer?***' in the '***User Account Control***' window.

E. 

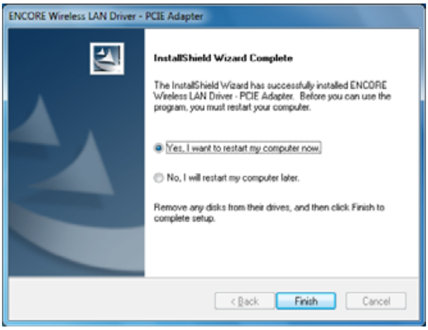
- Click "***Install this driver software anyway***,"

if you see '***Windows can't verify the publisher of this driver software***' in the '***Windows Security***' window.

F. 

- Click "***Next***" to continue,

when you see the '***ENCORE Wireless LAN Driver – PCIE Adapter***' window.

G. 

1. Save any opened file in other program.
2. Check "***Yes, I want to restart my computer now***."
3. Click "***Finish***" to restart the computer,

when you see '***InstallShield Wizard Complete***' in the '***ENCORE Wireless LAN Driver – PCIE Adapter***' window.

2.2.2 Windows® XP

A.



1. Click "***Cancel***,"

if you see the '***Found New Hardware Wizard***' window when you start Windows for the first time after installing the hardware.

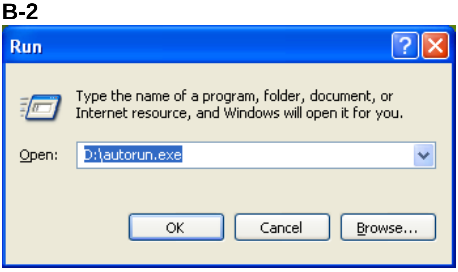
B. Insert the '***Installation CD***" that comes with the package to the CD-ROM drive. Depending on your computer's configuration, one of the following 2 scenarios will happen (B-1 or B-2).

B-1



- The '***Encore Welcome Screen***' appears automatically, and then the '***Quick Setup***' window in ***Step C*** will appear.

B-2



- If the '***Encore Welcome Screen***' does not appear, type "**D:\autorun.exe**" in the "***Run***" command window in the ***Start*** menu  ('**D**' is the drive letter of your CD-ROM drive).

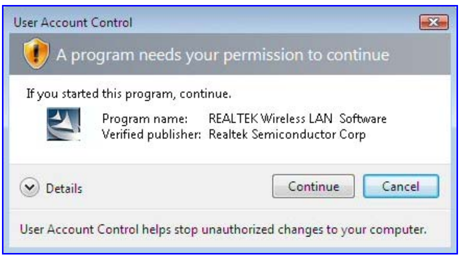
Note: You can use "***Browse***" to find the CD-ROM drive number.

C.



- Click “***Software & Driver Installation*** ” in the ‘***Quick Setup***’ window.

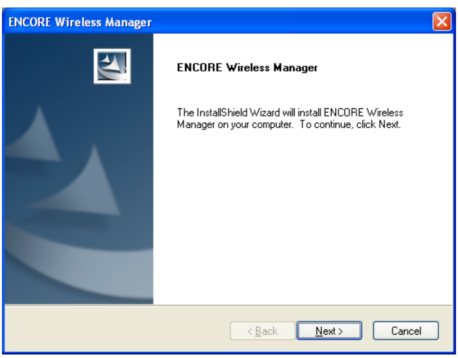
D.



- Click “***Yes***” to continue,

if you see ‘***A program needs your permission to continue***’ in the ‘***User Account Control***’ window.

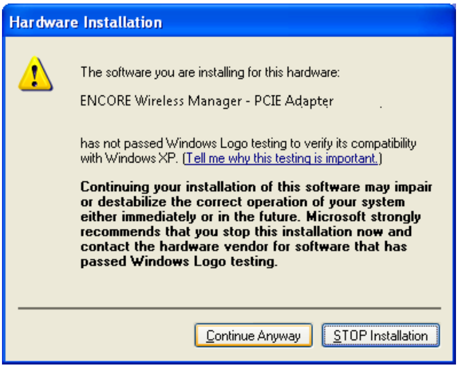
E.



- Click ”***Next***” to continue,

when you see the ‘***ENCORE Wireless Manager***’ window.

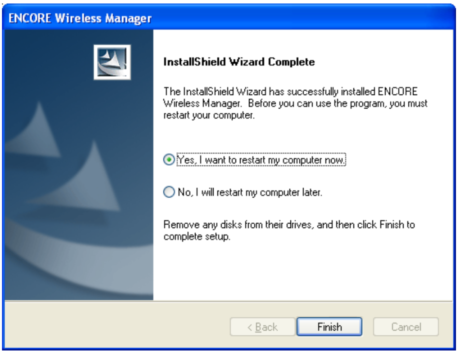
F.



- Click “***Continue Anyway***,”

if you see this warning message in the ‘***Hardware Installation***’ window.

G.



1. Save any opened file in other program.
2. Check “***Yes, I want to restart my computer now***.”
3. Click “***Finish***” to restart the computer,

when you see ‘***InstallShield Wizard Complete***’ in the ‘***ENCORE Wireless Manager***’ window.

2.3 Removing the ENEWI-2XN4x or ENEWI-1XN4x software

In Windows 7® and Windows Vista®

- Open the Windows ***Start*** menu → go to "***Control Panel***" → click "***Uninstall a program***" under the '***Programs***' category → select the '***ENCORE Wireless LAN Driver - PCIE Adapter***' → click "***Uninstall***" → follow the on-screen instructions

In Windows XP®

- Open the Windows ***Start*** menu → go to the "***Encore Wireless Manager***" program group → select "***Uninstall***" → follow the on-screen instructions
- Alternatively, open the Windows ***Start*** menu → go to "***Control Panel***" → select "***Add or Remove Programs***" → select the "***ENCORE Wireless Manager - PCIE Adapter***" → click "***Uninstall***" → follow the on-screen instructions

2.4 Upgrading the ENEWI-2XN4x or ENEWI-1XN4x software

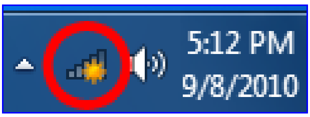
Upgrades may be available at the Encore Electronics' website (www.encore-usa.com). You have to follow the steps below.

1. Write down the SSID (wireless network name) and password (also called network security key, passphrase or pre-shared key) for any wireless network you want to save. The saved network profiles will be erased after the upgrade.
2. Download the upgrade from ENEWI-2XN4x or ENEWI-1XN4x's SUPPORT page on Encore Electronics' website.
3. Remove the ENEWI-2XN4x or ENEWI-1XN4x software from your computer.
4. Restart your computer.
5. If the upgrade file ends in **.zip**, you need to extract the .zip file first.
6. Run the upgrade file (ending in **.exe**) that you downloaded.
7. Follow the on-screen instructions.

Chapter 3: Connecting to Wireless Networks in Windows 7®

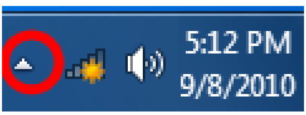
After installation, please use the **Windows Wireless Manager** to connect to wireless networks by following the steps below.

A.



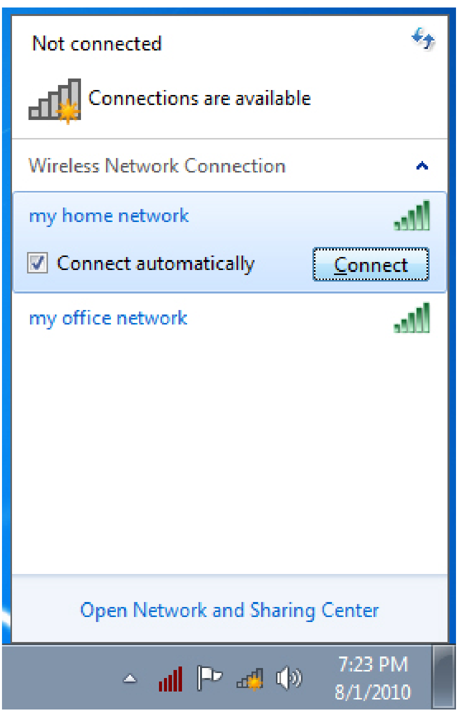
- Left-click on the "***Windows Wireless Manager Tray Icon*** ."

B.



- If you do not see the icon, click the "***Show hidden icons*** " arrow in the system tray.

C.



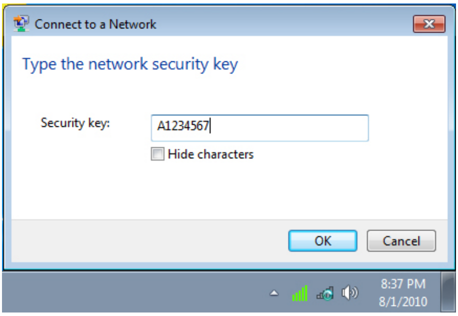
1. Select the "***Wireless Network Connection***" of your choice;

2. Click "***Connect***."

Note: The "***Connect automatically***" check box is checked by default. Your computer will automatically connect to the same wireless network when you are at the same location next time.

Note: If no wireless security is turned on, the warning message '***Information sent over this network might be visible to others.***' will appear. Click "***Connect***" if you want to proceed. ***Step D*** will be skipped.

D.



1. Enter the "***Security Key***" (also called password, passphrase or pre-shared key);
2. Click "***OK***."

E.



Once connected successfully, you will see the following two updates:

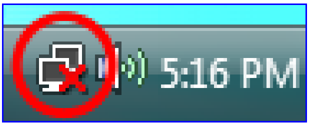
1. When Left-click on '***Windows Wireless Manager Tray Icon***,' you will see '***Connected'*** next to the wireless network of your choice.
2. The '***Windows Wireless Manager Tray Icon***' will become .

Note: For help with the **Windows Wireless Manager**, please refer to "***Help and Support***" in the **Start** menu at the lower left corner of your screen.

Chapter 4: Connecting to Wireless Networks in Windows Vista®

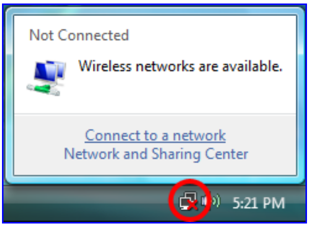
After installation, please use the Windows Wireless Manager to connect to wireless networks by following the steps below.

A.



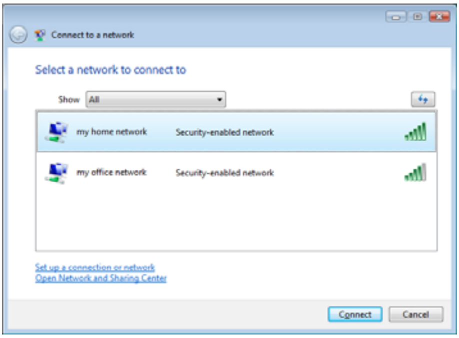
- Left-click on '***Windows Wireless Manager Tray Icon*** .'

B.



- Click "***Connect to a network***."
  (NOT the "***Network and Sharing center***.")

C.



1. Select the "***Wireless Network***" of your choice;
2. Click "***Connect***."

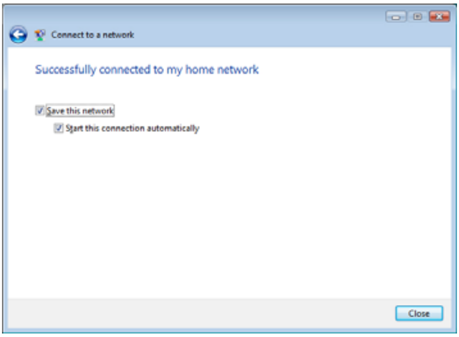
D.



1. Enter the "***Security Key***" (also called password, passphrase or pre-shared key);
2. Click "***Connect***."

Note: If no wireless security is turned on, an alternative window with the warning message '***Information sent over this network might be visible to others.***' will appear. Select "***Connect Anyway***" if you want to proceed.

E.



1. The "***Save this network***" and "***Start this connection automatically***" checkboxes are checked by default;
2. Click "***Close***."

Note: If "***Start this connection automatically***" is checked, your computer will automatically connect to the same wireless network when you are at the same location next time.

F.

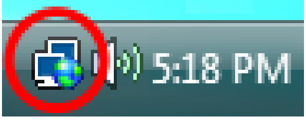


- The '***Set Network Location***' window may appear.

1. Select one of the three location types: "***Home***," "***Work***" or "***Public***."
2. Click "***Close***" in the follow-up window.

Note: Based on your choice, Windows will automatically configure the appropriate firewall settings.

G.



- The '***Windows Wireless Manager Tray Icon***' will show a globe at its lower right corner ().

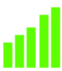
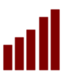
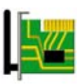
Note: For help with the **Windows Wireless Manager**, please refer to "***Help and Support***" in the **Start** menu  at the lower left corner of your screen.

Chapter 5: Connecting to Wireless Networks in Windows® XP

After the software installation, you can locate the Encore Wireless Manager Tray Icon at the lower right corner of your screen as in Figure A below.



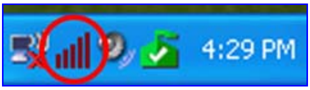
Figure A. Encore Wireless Manager Tray Icon location

Icon	Description
	The ENUWI-2XN4 is connected to a wireless network with excellent connection quality.
	The ENUWI-2XN4 is not connected to a wireless network.
	The ENUWI-2XN4 hardware is installed.
	The ENUWI-2XN4 hardware is removed.

Next page provides step-by-step guide to connecting to wireless networks with your wireless adapter.

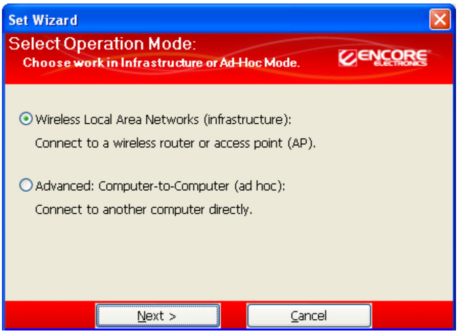
Please follow the steps below to connect to wireless networks.

A.



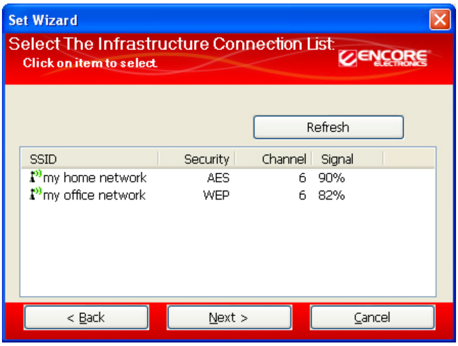
1. Right-click on the '***Encore Wireless Manager Tray Icon***' at the lower right corner of the screen;
2. Click "***Set Wizard**.*"

B.



1. Check "***Wireless Local Area Networks (Infrastructure)***;"
2. Click "***Next***."

C.



1. Select the '***SSID***' (wireless network name) you want to connect to.
2. Click "***Next***."

Note: If the selected SSID has wireless security turned on, the **Encore Wireless Manager** will automatically detect the security option for you.

D.

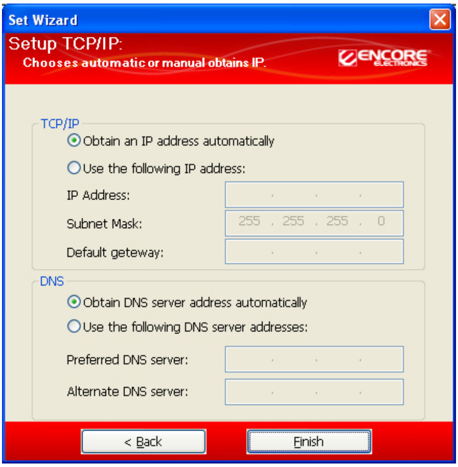


- Only enter and confirm the "***Network Key***" (also called password, passphrase or pre-shared key) of your router or access point,

when you see the '***Wireless Network Properties***' window.

Note: For most users, no need to change '***Network Authentication***' and '***Data encryption***.'

E.



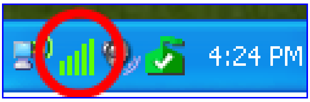
1. "***Obtain an IP address automatically***" and "***Obtain DNS server address automatically***" are checked by default in the '***Setup TCP/IP***' window.

Note: For most users, no need to change these two options.

2. Click "***Finish***."

F. Two ways to know the connection is successful:

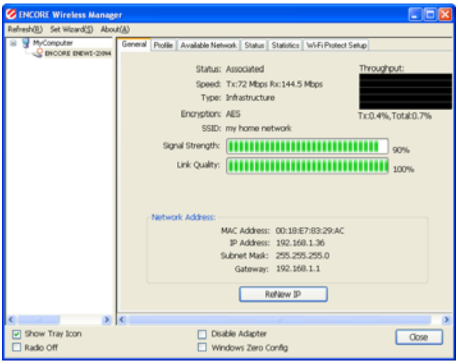
F-1 Encore Wireless Manager Tray Icon



F-1 The '***Encore Wireless Manager Tray Icon***' at the lower right corner of the screen will become ***green*** .

Note: The '***Windows Wireless Manager Tray Icon***' will become .

F-2 Encore Wireless Manager



F-2 The '***Signal Strength***' and '***Link Quality***' bars in the '***General***' tab in the **Encore Wireless Manager** will become active and green.

Chapter 6: Technical Support

If you have other questions, please visit the SUPPORT section on our website at www.Encore-USA.com first. You can submit your support request directly on our website. You can also reach us through one of the support hotlines or emails listed on the back of this user manual. Our experienced support representatives are ready to help you with any of your technical questions.

Chapter 7: Warranty Information

Please visit the TERMS AND POLICIES section on our website at www.Encore-USA.com for detailed information.

Appendix A. Wireless security Overview

A1. WEP, WPA and WPA2 comparison

WEP, WPA-PSK and WPA2-PSK are standard wireless security options. When using any one of them, each device in the wireless network MUST use the SAME wireless security option and network security key (also called password, passphrase or pre-shared key). Otherwise, the wireless network will not function properly.

Name	**WEP** (Wired Equivalent Privacy)	**WPA - PSK** (Wi-Fi Protected Access — Pre-Shared Key)	**WPA2 - PSK** (Wi-Fi Protected Access 2 — Pre-Shared Key)
Also called	----	**WPA - Personal** or **WPA**	**WPA2 - Personal** or **WPA2**
Security Level	basic	strong	**strongest**
Password Format	10- or 26- character hex key (A hex key is a combination of letters, a – f, and numbers, 0 – 9.)	8- to 63- character passphrase (A passphrase is a combination of alphabet letters and numbers.)	

A2. WEP / WPA / WPA2 802.1X

802.1X is for advanced users who are familiar with using a RADIUS server and setting up digital certificates. Each user needs to provide his or her own username, password and digital certificate in order to access the wireless network.

Name	**WEP 802.1X**	**WPA 802.1X**	**WPA2 802.1X**
Also called	**Dynamic WEP**	**WPA - Enterprise**	**WPA2 - Enterprise**
Security Level	basic	strong	**strongest**

Note: WEP is a deprecated wireless security algorithm. There are readily available programs to crack the WEP encryption within minutes. Nonetheless, WEP is widely used and is often the default wireless security option in older wireless devices.

A3. Enabling 802.1X in Windows®

802.1X authentication can help enhancing security for 802.11 wireless networks and wired Ethernet networks with user account verification. A digital certificate or a smart card is normally required to complete the authentication. 801.1X authentication is typically used for workplace connections and requires IT professionals to setup the system properly.

Windows® 7 and Windows Vista®

1. Left-click on the "***Windows Network Manager Tray Icon***" ( or  in Windows 7 or  in Windows Vista), and then open "***Network and Sharing Center***."
2. Open "***Manage Wireless Networks***."
3. Right-click the network that you want to enable 802.1X authentication for, and then click "***Properties***."
4. Click the "***Security***" tab, and then, in the "***Security Type***" list, click "***802.1X***."
5. In the "***Encryption Type***" list, click the encryption type used by the router or access point.
6. In the "***Choose a network authentication method***" list, click the method that matches with the RADIUS server.
7. To configure additional settings, click "***Settings***."

Windows® XP

- Please refer to the "***Help and Support***" in the ***Start*** menu .

Appendix B. Using Encore Wireless Manager in Windows XP®

The Encore Wireless Manager is the default wireless manager in Windows XP. While the Encore Wireless Wizard helps you connecting to wireless networks quickly, the Encore Wireless Manager offers you more control over your wireless networks.

B1. Starting Encore Wireless Manager

You can open Encore Wireless Manager in three ways:

1. From Encore Wireless Manager Tray Icon — 

- Left-click on the '***Encore Wireless Manager Tray Icon***' at the lower right corner of your screen, and then select "***Open Config Utility***."

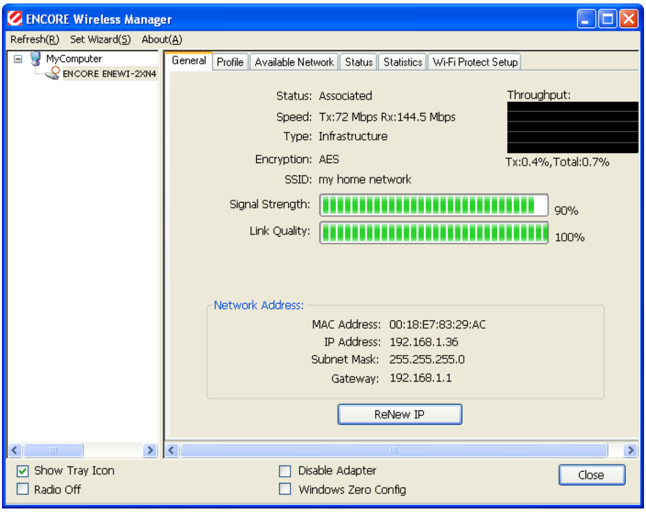
2. From Encore Wireless Manager Desktop Icon — 

- Double-click on the desktop icon.

3. From Windows Start menu — 

1. Open the Windows **Start** menu at the lower left corner of your screen.
2. Find the '***ENCORE Wireless Manager***' program group.
3. Select the "***Wireless Manager***" option.

B2. Encore Wireless Manager Overview



Top Toolbar

Set Wizard: starts the Encore Wireless Wizard.

About: shows the software version.

Tabs

General: shows the connection status information.

Profile: shows the previously saved wireless networks.

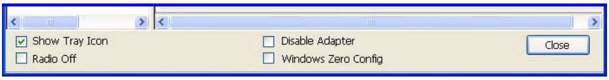
Available Network: shows the list of available wireless networks at your current location.

Status: shows the detailed connection status information.

Statistics: shows the data amount that is transferred and received.

Wi-Fi Protected Setup: allows you to connect to a wireless network without entering and memorizing any wireless password (also called network key, passphrase or pre-shared key). For more details, please refer to page 27.

Bottom Checkbox



Show Tray Icon: is checked by default. It allows the Encore Wireless Manager Tray Icon to appear at the lower right corner of your screen.

Disable Adapter: It is recommended using one wireless adapter as the same time. If you want to use another wireless adapter, such as a USB wireless adapter, you can easily disable the ENEWI-2XN4x or ENEWI-1XN4x by checking this checkbox.

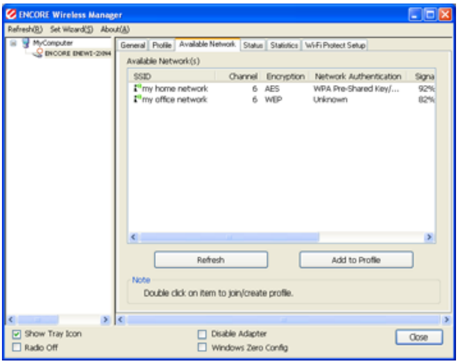
Radio Off: If checked, the ENEWI-2XN4x or ENEWI-1XN4x cannot connect to any wireless network.

Windows Zero Config: In Windows XP, you cannot use the Encore Wireless Manager and the Windows Wireless Manager (also called Wireless Zero Configuration) at the same time. If you want to use the Windows Wireless Manager, you need to check this box first.

Note: The "***Windows Zero Config***" checkbox may not appear sometimes. When this happens, you can go to ***Start*** menu  → "***Control Panel***" → "***Settings***" →"***Administrative Tools***" → "***Services***," and then manually enable "***Wireless Zero Configuration***."

B3. Manual Connection

A.



1. Go to the "***Available Network***" tab;
2. Select the "***SSID***" (wireless network name) of your choice;
3. Click "***Add to Profile***;"
4. If the selected network has wireless security enabled, Encore Wireless Manager will automatically detect the wireless security option.

Note: The '***Unsecured Network***'' warning window will appear if there is no wireless security enabled. Click "***OK***" if you want to proceed.

B.

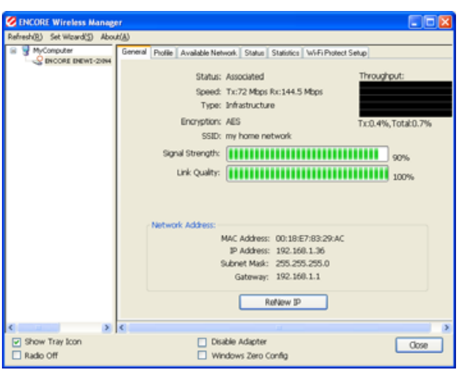


- Only enter and confirm the "***Network Key***" (also called password, passphrase or pre-shared key) of the router or access point,

when you see this '***Wireless Network Properties***' window.

Note: For most users, no need to change '***Network Authentication***' and '***Data encryption***.'

C.



- Once connected, the tab will automatically switch to the "***General***" tab. The '***Signal Strength***' and '***Link Quality***' bars will become active and green.

Note: The '***Encore Wireless Manager Tray Icon***' at the lower right corner of the screen will become green as well.



B4. Easy Connection with WPS

Wi-Fi Protected Setup (WPS) allows your computer to connect to a wireless router or access point ***without*** a network security key (also called password, passphrase or pre-shared key). Please check the user manual of your router or access point to see if it supports WPS.

Two connection methods are available for WPS:

- Push Button Configuration (**PBC**)
- Personal Information Number (**PIN**).

The instructions are shown in the following pages.

B4.1. WPS — PBC (Push Button Configuration)

Push Button Configuration (PBC) allows your computer to connect to a wireless network by the click of a button. You do not need to memorize your router or access point's wireless security password. Please check the user manual of your router or access point to see if it supports WPS - PBC. Normally, the PBC button comes with an icon like the one on the right.



Note: Before you start, please have your wireless router and your computer in close range. This is just temporary. You can place your router or computer anywhere you want afterward.

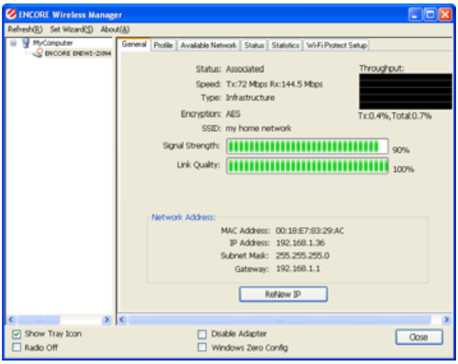
A.



1. Go to the "***Wi-Fi Protected Setup***" tab.
2. Click on "***Push Button Config (PBC)***."
3. Within two minutes, press the **WPS-PBC** button on your router or access point.

Note: Please follow the instructions in the user manual of your router or access point.

B.



- Once connected, the tab will automatically switch to the "***General***" tab. The '***Signal Strength***' and '***Link Quality***' bars will become active and green.

Note: The '***Encore Wireless Manager Tray Icon***' at the lower right corner of the screen will become green as well.

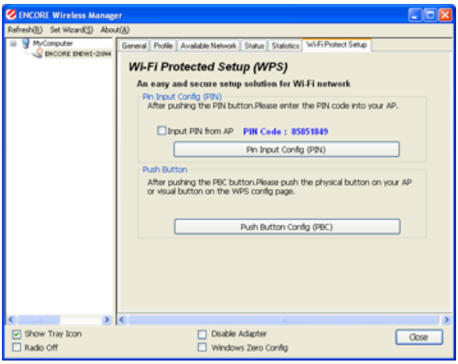


B4.2. WPS — PIN (Personal Information Number)

Personal Information Number (PIN) allows your computer to connect to a wireless network by entering your router or access point's PIN code to the adapter or vice versa. Unlike wireless network security passwords, you do not need to memorize the PIN code. Please check the user manual of your router or access point to see if it supports WPS - PIN.

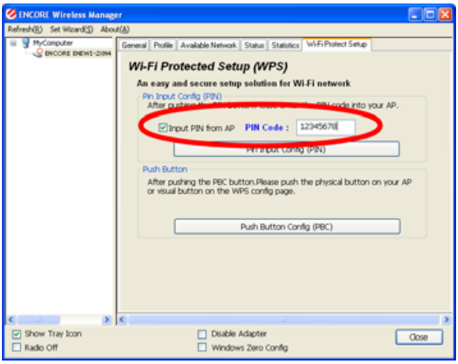
[Option 1: Entering Router or Access Point's PIN Code to the Adapter]

A.



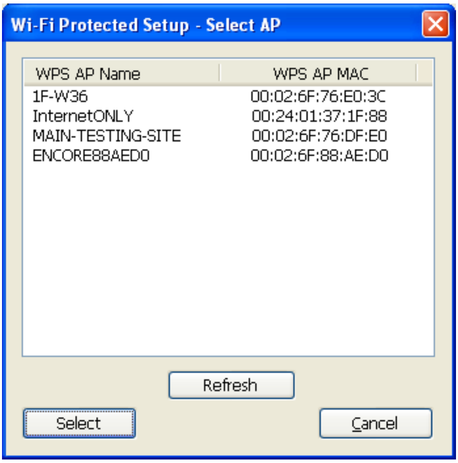
1. Go to the "***Wi-Fi Protected Setup***" tab.
2. Check the "***Input PIN from AP***" check box.
3. The number next to "***PIN Code:***" will become an empty text box.

B.



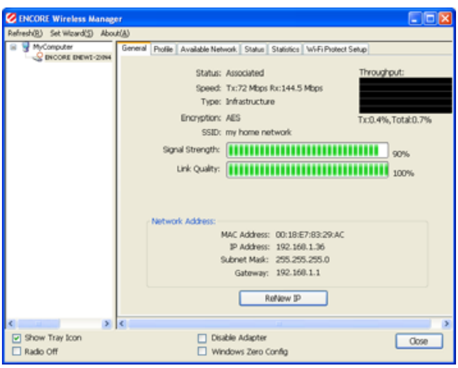
1. Enter your router or access point's PIN to the text box next to "***PIN Code:***"
2. Click on "***Pin Input Config (PIN)***."
3. The "***Wi-Fi Protected Setup – Select AP***" window will pop-up, as shown in ***Step C***.

C.



1. Choose the network name (SSID) of the router or access point you want to connect.
2. Click "***Select***."

D.



- Once connected, the tab will automatically switch to the "***General***" tab. The '***Signal Strength***' and '***Link Quality***' bars will become active and green.

Note: The '**Encore Wireless Manager Tray Icon**' at the lower right corner of the screen will become green as well.

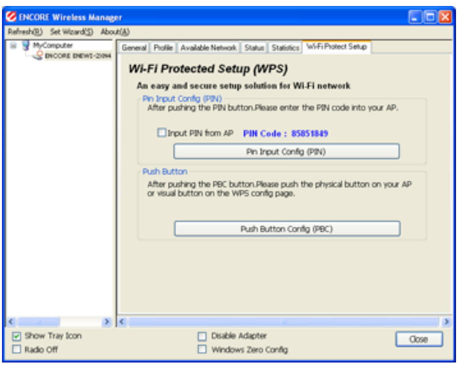


[Option 2: Entering the Adapter’s PIN Code to the Router or Access Point]

Note: To enter your adapter’s PIN code to your router or access point, you need to know your router or access point’s IP address. In addition, you need to have one of the following:

- A computer directly connects to the router or access point through wired connection. This computer can be the one with ENUWI-2XN4 installed on or a different one.
- A computer already connects to the router or access point through wireless connection. For example, this could be your laptop computer.

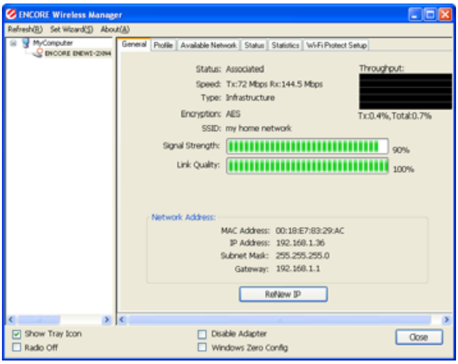
A.



1. Go to the “***Wi-Fi Protected Setup***” tab.
2. Click on “***Pin Input Config (PIN)***”
3. Within two minutes, enter the ***wireless adapter’s*** PIN code into your router or access point’s Web-based Utility through a web browser.

Note: To complete **Step 3**, you need to know your router or access point’s IP address to access its Web-based Utility.

B.



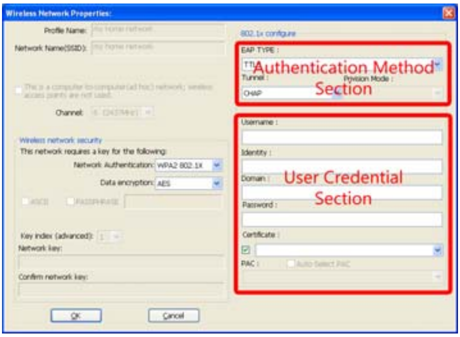
- Once connected, the tab will automatically switch to the “***General***” tab. The ‘***Signal Strength***’ and ‘***Link Quality***’ bars will become active and green.

Note: The ‘**Encore Wireless Manager Tray Icon**’ at the lower right corner of the screen will become green as well.



B5. Using 802.1X

802.1X is for advanced users who are familiar with using a RADIUS server and setting up digital certificates. Workplace networks often use 802.1X to tighten the network control. When connecting to a wireless network using WEP/WPA/WPA2 802.1X security, you need to provide two types of information in the '**Wireless Network Properties**' window.



Authentication Method Section:

- You need to select the authentication protocol that the RADIUS server is using.

User Credential Section:

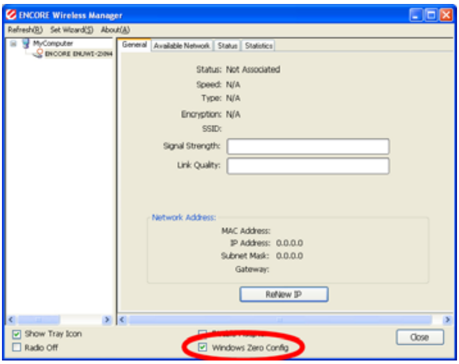
- You need to provide username, password, and/or other digital credentials requested by the RADIUS server.

Note: For more details, please consult with an IT specialist.

Appendix C. Connecting to Wireless Networks with Wireless Zero Connection in Windows XP®

Alternatively, you can use Windows Wireless Manager (also called Wireless Zero Connection or WZC) to connect to wireless networks in Windows XP by following the steps below.

A.

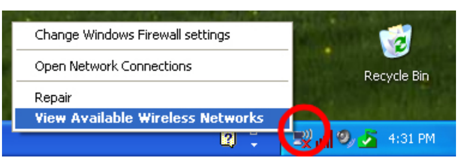


1. Open ‘***Encore Wireless Manager***.’
2. Check “***Windows Zero Config***” at the bottom of the window.

Note: You **cannot** use Windows ‘*Wireless Zero Connection*’ and ‘*Encore Wireless Manager*’ to manage wireless networks at the same time. **To give control back to ‘*Encore Wireless Manager*,’** you need to **uncheck** ‘*Windows Zero Config*.’

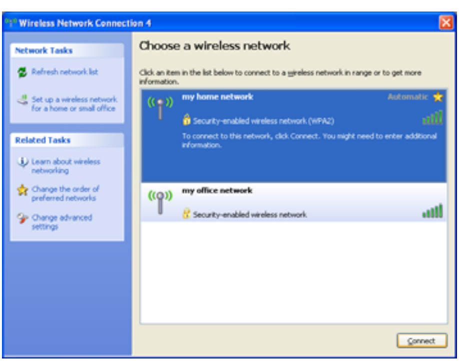
Note: If the “***Windows Zero Config***” checkbox does not appear in Encore Wireless Manager, you need to go to “***Start*** menu ” → “***Control Panel***” → ”***Settings***” → “***Administrative Tools***” → “***Services***,” and then enable “***Wireless Zero Configuration***.”

B.



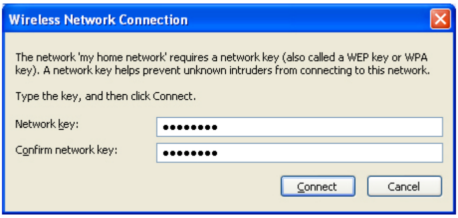
1. Right-click on ‘**Windows Wireless Manager Tray Icon** ;’
2. Click “***View Available Wireless Networks***.”

C.



1. Select the ‘***Wireless Network Name***’ (SSID) of your choice;
2. Click “***Connect***.”

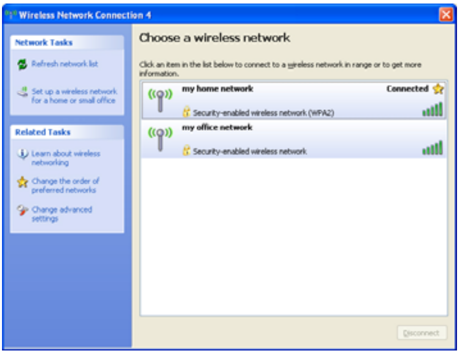
D.



1. Enter and confirm the "***Network key***" (also called password, passphrase or pre-shared key);
2. Click "***Connect***."

Note: If no wireless security is turned on, an alternative window with the warning message '***Information sent over this network might be visible to others.***' will appear. Select "***Connect Anyway***" if you want to proceed.

E.



- Once connected successfully, the text '***Connected***' will appear next to the wireless network of your choice.

F.



Also, you will see two updates in the system tray:

1. The '**Windows Wireless Manager Tray Icon**' will change to .
2. The '**Encore Wireless Manager Tray Icon**' will become green .

Note: For help with the **Windows Wireless Manager**, please refer to "***Help and Support***" in the **Start** menu  at the lower left corner of your screen.

Appendix D. Specifications

N300 Series (ENEWI-2XN4x)

Standard

- IEEE 802.11n Draft 2.0
- IEEE 802.11g
- IEEE 802.11b

Radio Technology

- IEEE 802.11g / IEEE 802.11n: Orthogonal Frequency Division Multiplexing (OFDM)
- IEEE 802.11b: Direct Sequence Spread Spectrum (DSSS)

Interface

- x1 PCI-E Bus

Transmission Rate

- 1, 2, 5.5, 6, 11, 12, 18, 22, 24, 30, 36, 48, 54, 60, 90, 120, 180, 240, 270, 300Mbps (auto sense) for Rx
- 1, 2, 5.5, 6, 11, 12, 18, 22, 24, 30, 36, 48, 54, 60, 90, 120, 180, 240, 270, 300Mbps (auto sense) for Tx

Receiver Sensitivity

- 300Mbps: Typical-65dBm @ 10% PER
- 54Mbps: Typical-68dBm @ 10% PER
- 11Mbps: Typical-84dBm @ 8% PER

Modulation Schemes

- DBPSK / DQPSK / CCK / OFDM (BPSK / QPSK / 16-QAM / 64-QAM)
- Media Access Protocol
- CSMA / CA with ACK

Transmit Power

- 13dBm typically @ 802.11n
- 14dBm typically @ 802.11g
- 15dBm typically @ 802.11b

Wireless LAN Frequency Range

- 2412 ~ 2484 MHz ISM band (channels 1 ~ 14)

Security

- 64/128-bits WEP Encryption
- WPA-PSK, WPA2-PSK, WPA-802.1X, WPA2-802.1X
- WPS

Quality of Service (QoS)

- WMM

Range Coverage

- Indoor: Up to 100 meters (depends on environment)
- Outdoor: Up to 300 meters (depends on environment)

Antenna

- Two detachable antennas with SMA connector

Diagnostic LED

- Activity Status

Operating Temperature

- 0 ~ 40 °C

Storage Temperature

- -10 ~ 70 °C

Humidity

- 10% ~ 95% RH, no condensation

Certifications

- FCC Part 15.247 for US
- ETS 300 328 for Europe

Channel

- USA: 11
- Europe: 13
- Japan: 14

Driver Support

- Windows® 7, Windows Vista® and Windows® XP

N150 Series (ENEWI-1XN4x)

Standard

- IEEE 802.11n Draft 2.0
- IEEE 802.11g
- IEEE 802.11b

Radio Technology

- IEEE 802.11g / IEEE 802.11n: Orthogonal Frequency Division Multiplexing (OFDM)
- IEEE 802.11b: Direct Sequence Spread Spectrum (DSSS)

Interface

- x1 PCI-E Bus

Transmission Rate

- 1, 2, 5.5, 6, 11, 12, 18, 22, 24, 30, 36, 48, 54, 60, 90, 120, 135, 150Mbps (auto sense) for Rx
- 1, 2, 5.5, 6, 11, 12, 18, 22, 24, 30, 36, 48, 54, 60, 90, 120, 135, 150Mbps (auto sense) for Tx

Receiver Sensitivity

- 150Mbps: Typical-65dBm @ 10% PER
- 54Mbps: Typical-68dBm @ 10% PER
- 11Mbps: Typical-84dBm @ 8% PER

Modulation Schemes

- DBPSK / DQPSK / CCK / OFDM (BPSK / QPSK / 16-QAM / 64-QAM)
- Media Access Protocol
- CSMA / CA with ACK

Transmit Power

- 13dBm typically @ 802.11n
- 14dBm typically @ 802.11g
- 15dBm typically @ 802.11b

Wireless LAN Frequency Range

- 2412 ~ 2484 MHz ISM band (channels 1 ~ 14)

Security

- 64/128-bits WEP Encryption
- WPA-PSK, WPA2-PSK, WPA-802.1X, WPA2-802.1X
- WPS

Quality of Service (QoS)

- WMM

Range Coverage

- Indoor: Up to 100 meters (depends on environment)
- Outdoor: Up to 300 meters (depends on environment)

Antenna

- One detachable antenna with SMA connector

Diagnostic LED

- Activity Status

Operating Temperature

- 0 ~ 40 ^{o}C

Storage Temperature

- -10 ~ 70 ^{o}C

Humidity

- 10% ~ 95% RH, no condensation

Certifications

- FCC Part 15.247 for US
- ETS 300 328 for Europe

Channel

- USA: 11
- Europe: 13
- Japan: 14

Driver Support

- Windows® 7, Windows Vista® and Windows® XP

Appendix E. Regulatory Information

E1. Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

IMPORTANT NOTE:

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

The availability of some specific channels and/or operational frequency bands are country dependent and are firmware programmed at the factory to match the intended destination. The firmware setting is not accessible by the end user.

E2. Europe – EU Declaration of Conformity

This device complies with the essential requirements of the R&TTE Directive 1999/5/EC. The following test methods have been applied in order to prove presumption of conformity with the essential requirements of the R&TTE Directive 1999/5/EC:

EN 60 950-1: 2001 +A11: 2004

Safety of Information Technology Equipment

EN 50385: 2002

Product standard to demonstrate the compliance of radio base stations and fixed terminal stations for wireless telecommunication systems with the basic restrictions or the reference levels related to human exposure to radio frequency electromagnetic fields (110MHz - 40 GHz) - General public

EN 300 328 V1.7.1 (2006-10)

Electromagnetic compatibility and Radio spectrum Matters (ERM); Wideband transmission systems; Data transmission equipment operating in the 2,4 GHz ISM band and using wide band modulation techniques; Harmonized EN covering essential requirements under article 3.2 of the R&TTE Directive

EN 301 489-1 V1.6.1 (2005-09)

Electromagnetic compatibility and Radio Spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements

EN 301 489-17 V1.2.1 (2002-08)

Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 17: Specific conditions for 2,4 GHz wideband transmission systems and 5 GHz high performance RLAN equipment

This device is a 2.4 GHz wideband transmission system (transceiver), intended for use in all EU member states and EFTA countries, except in France and Italy where restrictive use applies.

In Italy the end-user should apply for a license at the national spectrum authorities in order to obtain authorization to use the device for setting up outdoor radio links and/or for supplying public access to telecommunications and/or network services.

This device may not be used for setting up outdoor radio links in France and in some areas the RF output power may be limited to 10 mW EIRP in the frequency range of 2454 – 2483.5 MHz. For detailed information the end-user should contact the national spectrum authority in France.

CE0560ⓘ

cs Česky [Czech]	Encore Electronics Inc. tímto prohlašuje, že tento ENHWI-G2 je ve shodě se základními požadavky a dalšími příslušnými ustanoveními směrnice 1999/5/ES.
da Dansk [Danish]	Undertegnede Encore Electronics Inc erklærer herved, at følgende udstyr ENHWI-G2 overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF.
de Deutsch [German]	Hiermit erklärt Encore Electronics Inc, dass sich das Gerät ENHWI-G2 in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 1999/5/EG befindet.
et Eesti [Estonian]	Käesolevaga kinnitab Encore Electronics Inc seadme ENHWI-G2 vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.
en English	Hereby, Encore Electronics Inc, declares that this ENHWI-G2 is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.
es Español [Spanish]	Por medio de la presente Encore Electronics Inc declara que el ENHWI-G2 cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE.
el Ελληνική [Greek]	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ Encore Electronics Inc ΔΗΛΩΝΕΙ ΟΤΙ ENHWI-G2 ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/ΕΚ.
fr Français [French]	Par la présente Encore Electronics Inc déclare que l'appareil ENHWI-G2 est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE.
it Italiano [Italian]	Con la presente Encore Electronics Inc dichiara che questo ENHWI-G2 è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.
Latviski [Latvian]	Ar šo Encore Electronics Inc deklarē, ka ENHWI-G2 atbilst Direktīvas 1999/5/EK būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.
Lietuvių [Lithuanian]	Šiuo Encore Electronics Inc deklaruoja, kad šis ENHWI-G2 atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.
nl Nederlands [Dutch]	Hierbij verklaart Encore Electronics Inc dat het toestel ENHWI-G2 in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG.
mt Malti [Maltese]	Hawnhekk, Encore Electronics Inc, jiddikjara li dan ENHWI-G2 jikkonforma mal-ħtiġijiet essenzjali u ma provvedimenti oħrajn relevanti li hemm fid-Dirrettiva 1999/5/EC.
hu Magyar [Hungarian]	Alulírott, Encore Electronics Inc nyilatkozom, hogy a ENHWI-G2 megfelel a vonatkozó alapvetõ követelményeknek és az 1999/5/EC irányelv egyéb elõírásainak.
pl Polski [Polish]	Niniejszym Encore Electronics Inc oświadcza, że ENHWI-G2 jest zgodny z zasadniczymi wymogami oraz pozostałymi stosownymi postanowieniami Dyrektywy 1999/5/EC.
pt Português [Portuguese]	Encore Electronics Inc declara que este ENHWI-G2 está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.
sl Slovensko [Slovenian]	Encore Electronics Inc izjavlja, da je ta ENHWI-G2 v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 1999/5/ES.
Slovensky [Slovak]	Encore Electronics Inc týmto vyhlasuje, že ENHWI-G2 spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.
fi Suomi [Finnish]	Encore Electronics Inc vakuuttaa täten että ENHWI-G2 tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
sv Svenska [Swedish]	Härmed intygar Encore Electronics Inc att denna ENHWI-G2 står I överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.

Appendix F. Software End User License Agreement

PLEASE READ THE FOLLOWING TERMS ("Agreement") CAREFULLY. USE OF THE SOFTWARE (defined below) PROVIDED BY ENCORE ELECTRONICS, INC. IS PERMITTED ONLY UNDER AND IN ACCORDANCE WITH THIS AGREEMENT. IF YOU DO NOT AGREE TO BE BOUND BY THIS AGREEMENT, PLEASE DO NOT USE THIS SOFTWARE.

1. Grant of License. This Agreement permits you to use one copy of the Software or the Software included in this package or device on any single computer ("Software"). For each software licensee, the program can be "in use" on only one computer or hardware device at any given time. The Software is "in use" when it is either downloaded, copied, loaded into RAM or installed into the hard disk or other permanent memory of a computer or other hardware device.

2. License Restrictions. YOU MAY NOT RENT, LEASE, SUBLICENSE, SELL, ASSIGN, LOAN OR OTHERWISE TRANSFER THE SOFTWARE OR ANY OF YOUR RIGHTS AND OBLIGATIONS UNDER THIS AGREEMENT. You may not modify, translate, reverse assemble, decompile, disassemble or otherwise attempt (i) to defeat, avoid, bypass, remove, deactivate or otherwise circumvent any software protection mechanisms in the Software, including without limitation any such mechanism used to restrict or control the functionality of the Software, or (ii) to derive the source code or the underlying ideas, algorithms, structure or organization from the Software (except to the extent that such activities may not be prohibited under applicable law). However, you may transfer all your right to use the Software to another person or organization, provided that (a) the followings are also transferred with the Software, (i) this Agreement; (ii) other software if contained in the original package, and/or hardware that the Software is bundled; (iii) any original or updated version of the Software; (b) no copies including back-up and installed in your computer or other device are at your possession after the transfer, and (c) the recipient accepts all the terms of this Agreement. In no event shall you transfer the Software obtained as a trial, test version, or otherwise specified as not for resale. A special license permit from Encore Electronics, Inc. is required if the program is going to be installed on a network server for the sole purpose of distribution to other computers.

3. Copyright. The Software or the Software contained in this package or device is protected by United States copyright laws, international treaty provisions, and all other applicable national laws. The Software must be treated like all other copyrighted materials (e.g. books and musical recordings). This license does not allow the Software to be rented or leased, and the written materials accompanying the Software (if any) may not be copied.

4. Ownership. Title, ownership rights, and all intellectual property rights in and to the Software and any accompanying documentation, and any copy of the foregoing, and any sample contents shall remain the sole and exclusive property of Encore Electronics, Inc. and/or its third party licensors. You agree to abide by the copyright law and all other applicable laws. You acknowledge that the Software contains valuable confidential information and trade secrets of Encore Electronics, Inc. and/or its third party licensors.

5. Warranty Disclaimer. THE SOFTWARE IS MADE AVAILABLE TO YOU ON "AS IS" BASIS. NO WARRANTIES, EITHER EXPRESS OR IMPLIED, ARE MADE WITH RESPECT TO THIS SOFTWARE, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF

MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE AND WARRANTIES FOR NON-INFRINGEMENT OF INTELLECTUAL PROPERTY, AND ENCORE ELECTRONICS, INC. EXPRESSLY DISCLAIMS ALL WARRANTIES NOT STATED HEREIN. YOU ASSUME THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE SOFTWARE. SHOULD THE SOFTWARE PROVE DEFECTIVE, YOU, AND NOT ENCORE ELECTRONICS, INC. OR AN AUTHORIZED RESELLER, ASSUME THE ENTIRE COST OF NECESSARY SERVICING, REPAIR, OR CORRECTION. SOME STATES DO NOT ALLOW THE EXCLUSION OF IMPLIED WARRANTIES, SO THE ABOVE EXCLUSION MAY NOT APPLY TO YOU. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS THAT VARY FROM STATE TO STATE. YOUR SOLE REMEDY AND THE ENTIRE LIABILITY OF ENCORE ELECTRONICS, INC. ARE SET FORTH ABOVE.

6. No Liability for Consequential Damages. YOU AGREE THAT IN NO EVENT SHALL ENCORE ELECTRONICS, INC. OR ITS AGENTS BE LIABLE FOR ANY LOSS OF ANTICIPATED PROFITS, LOSS OF DATA, LOSS OF USE, BUSINESS INTERRUPTION, COST OF COVER OR ANY OTHER INDIRECT, INCIDENTAL, SPECIAL, PUNITIVE OR CONSEQUENTIAL DAMAGES WHATSOEVER ARISING OUT OF THE USE OF OR INABILITY TO USE THE SOFTWARE, HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY (WHETHER FOR BREACH OF CONTRACT, TORT (INCLUDING NEGLIGENCE) OR OTHERWISE), EVEN IF ENCORE ELECTRONICS, INC. HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. IN NO EVENT WILL ENCORE ELECTRONICS, INC. BE LIABLE TO YOU FOR DAMAGES IN AN AMOUNT GREATER THAN THE FEES PAID FOR THE USE THE FOREGOING LIMITATIONS APPLY TO THE EXTENT PERMITTED BY APPLICABLE LAWS IN YOUR JURISDICTION.

7. Export. You will not export or re-export the product incorporating the Software without the appropriate United States or foreign government licenses.

8. U.S. Government Restricted Rights. If you are a unit or agency of the United States government, the Software and related documentation are deemed to be "commercial computer software" and "commercial computer software documentation," respectively, pursuant to DFAR Section 227.7202 and FAR Section 12.212(b), as applicable. Any use, modification, reproduction, release, performing, displaying or disclosing of the Software and/or the related documentation by the United States government shall be governed solely by the terms of this Agreement and shall be prohibited except to the extent expressly permitted by the terms of this Agreement. Any technical data provided that is not covered by the above provisions is deemed to be "technical data commercial items" pursuant to DFAR Section 227.7015(a). Any use, modification, reproduction, release, performing, displaying or disclosing of such technical data shall be governed by the terms of DFAR Section 227.7015(b).

9. Termination. THIS AGREEMENT SHALL BE EFFECTIVE UPON INSTALLATION OF THE SOFTWARE AND SHALL TERMINATE UPON THE EARLIER OF: (i) YOUR FAILURE TO COMPLY WITH ANY TERM OF THIS AGREEMENT; OR (ii) RETURN, DESTRUCTION OR DELETION OF ALL COPIES OF THE SOFTWARE IN YOUR POSSESSION. Encore Electronics, Inc.'s rights and your obligations shall survive the termination of this Agreement.

10. High Risk Activities. The Software is not fault-tolerant and is not designed or intended for use in hazardous environments requiring fail-safe performance, or any other application in which the failure of the Software could lead directly to death, personal injury, or severe physical or

property damage (collectively, "High Risk Activities"). Encore Electronics, Inc. EXPRESSLY DISCLAIMS ANY EXPRESS OR IMPLIED WARRANTY OF FITNESS FOR HIGH RISK ACTIVITIES.

11. Governing Law and Jurisdiction. This Agreement will be governed by and construed under the laws of the State of California. and the United States as applied to agreements entered into and to be performed entirely within California., without regard to conflicts of laws provisions thereof and the parties expressly exclude the application of the United Nations Convention on Contracts for the International Sales of Goods. Suits or enforcement actions must be brought within, and each party irrevocably commits to the exclusive jurisdiction of the state and federal courts located in Santa Clara County.

Appendix G. User's Notice

No part of this manual, including the products and software described in it, may be reproduced, transmitted, transcribed, stored in a retrieval system, or translated into any language in any form or by any means, except documentation kept by the purchaser for backup purposes, without the express written permission of us.

WE PROVIDES THIS MANUAL "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL US, ITS DIRECTORS, OFFICERS, EMPLOYEES OR AGENTS BE LIABLE FOR ANY INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES (INCLUDING DAMAGES FOR LOSS OF PROFITS, LOSS OF BUSINESS, LOSS OF USE OR DATA, INTERRUPTION OF BUSINESS), EVEN IF WE HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES ARISING FROM ANY DEFECT OR ERROR IN THIS MANUAL OR PRODUCT.

Product warranty or service will not be extended if: (1) the product is repaired, modified or altered, unless such repair, modification of alteration is authorized in writing by us; or (2) the serial number of the product is defaced or missing.

Products and corporate names appearing in this manual may or may not be registered trademarks or copyrights of their respective companies, and are used only for identification or explanation and to the owners' benefit, without intent infringe.

- Windows® 7, Windows Vista® and Windows® XP are registered trademarks of Microsoft® Corporation.
- Adobe® and Acrobat® are registered trademarks of Adobe Systems Incorporated.

SPECIFICATIONS AND INFORMATION CONTAINED IN THIS MANUAL ARE FURNISHED FOR INFORMATION USE ONLY, AND ARE SUBJECT TO CHANGE AT ANY TIME WITHOUT NOTICE, AND SHOULD NOT BE CONSTRUED AS A COMMITMENT BY US. WE ASSUME NO RESPONSIBILITY OR LIABILITY FOR ANY ERRORS OR INACCURACIES THAT MAY APPEAR IN THIS MANUAL, INCLUDING THE PRODUCTS AND SOFTWARE DESCRIBED IN IT.

MAKING CONNECTIONS easy



Our local tech support specialists are ready to help 24/7.

LIVE* SUPPORT

Argentina
Buenos Aires
+54 11-6632-2120
Córdoba
+54 35-1568-1873
soporte.argentina@encore-usa.com

Brazil
+55 11-3958-3829
(9 a.m. - 6 p.m., Monday through Friday)
suporte.brasil@encore-usa.com

Chile
+56 2-581-4903
soporte.chile@encore-usa.com

Colombia
+57 1-381-9274
soporte.colombia@encore-usa.com

México
+52 55-2789-5414
soporte.mexico@encore-usa.com

Perú
+51 1-708-5421
soporte.peru@encore-usa.com

Philippines
+63-2-444-9054
support.philippines@encore-usa.com

USA
+1 626-606-3108
support@encore-usa.com

Spain
+34 912-919-405
soporte.espana@encore-usa.com

Venezuela
+58 212-335-7530
soporte.venezuela@encore-usa.com

Rest of Latin America
soporte.latinoamerica@encore-usa.com

* Local tech-support numbers are provided in selected countries. Service may change without prior notice.
Please visit our website for more details.

ENCORE® ELECTRONICS
www.encore-usa.com